



Periodic Review / Retain Regulation Agency Background Document

Agency name	State Air Pollution Control Board
Virginia Administrative Code (VAC) citation	9VAC5-220
Regulation title	Variance for Rocket Motor Test Operations at Atlantic Research Corporation Orange County Facility
Document preparation date	April 13, 2012

This form is used when the agency has done a periodic review of a regulation and plans to retain the regulation without change. This information is required pursuant to Executive Orders 14 (2010) and 58 (1999).

Legal basis

Please identify the state and/or federal legal authority for the regulation, including (1) the most relevant law and/or regulation, and (2) promulgating entity, i.e., agency, board, or person.

Section 10.1-1307 C of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to grant local variances from regulations and issue orders to that effect. Written assurance from the Office of the Attorney General that (i) the Board has statutory authority to promulgate the final orders and variances and (ii) the variances qualify as exemptions under § 2.2-4007 M, § 2.2-4013, § 2.2-4014 D, and § 2.2-4015 C of the Administrative Process Act is available upon request.

This variance was adopted by the State Air Pollution Control Board in order to relieve the Atlantic Research Corporation (ARC) rocket test facility located in Orange County, Virginia from compliance with the board's standards for visible emissions in 9VAC5-40-80 and 9VAC5-50-80 during their rocket motor testing operations. The standards for particulate matter with which ARC had to comply required the company to certify compliance through a determination made using the U.S. Environmental Protection Agency (EPA) "Method for the Visual Determination of the Opacity of Emissions from Stationary Sources" (40 CFR Part 60, Appendix A, Method 9) or an alternate method. Method 9, however, was inappropriate because most of ARC's tests lasted less than the 6-minute minimum specified for the opacity readings that demonstrate a source's compliance with the standards. Thus, an inspector could not observe the source's normal performance for the required duration of the test. In addition, the EPA-approved alternate method could not be substituted. A variance eliminated this problem by replacing the opacity

standards with a particulate matter limit of 714 pounds per hour. Thus, ARC was relieved from the problem of demonstrating compliance with the opacity standards while still meeting state air quality standards.

Alternatives

Please describe all viable alternatives for achieving the purpose of the existing regulation that have been considered as part of the periodic review process. Include an explanation of why such alternatives were rejected and why this regulation is the least burdensome alternative available for achieving the purpose of the regulation.

Alternatives for achieving the purpose of the regulation have been considered by the department. The department has determined that the first alternative is appropriate as it is the least burdensome and least intrusive alternative that fully meets statutory requirements. The alternatives considered by the department, along with the reasoning by which the department has rejected any of the alternatives considered, are discussed below.

1. Retain the regulation without amendment. This option was selected because the facility is in operation and cannot meet current opacity requirements. However, an alternative method for control is provided for through the variance and is necessary to protect public health and welfare while avoiding unreasonable hardships on the regulated community, the department, and the general public.
2. Amend the regulation. This option was not selected because no issues have been identified that require making any changes to the regulation. Public health and welfare are currently protected without undue hardship on the regulated community.
3. Repeal the regulation. This option was not selected because the regulation is still needed to protect public health and welfare.

Public comment

Please summarize all comments received during the public comment period following the publication of the Notice of Periodic Review, and provide the agency response. Please indicate if an informal advisory group was formed for purposes of assisting in the periodic review.

No comment was received.

Effectiveness

Please indicate whether the regulation meets the criteria set out in Executive Order 14 (2010), e.g., is necessary for the protection of public health, safety, and welfare, and is clearly written and easily understandable.

The regulation is necessary for the protection of public health and welfare, as it is needed to meet the primary goals of the federal Clean Air Act: the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and the prevention of significant deterioration (PSD) of air quality in areas cleaner than the NAAQS.

The NAAQS, developed and promulgated by the U.S. Environmental Protection Agency (EPA), establish the maximum limits of pollutants that are permitted in the outside ambient air in order to protect public health and welfare. EPA requires that each state submit a State Implementation Plan (SIP), including any laws and regulations necessary to enforce the plan, that shows how the air pollution concentrations will be reduced to levels at or below these standards (attainment). Once the pollution levels are within the standards, the SIP must also demonstrate how the state will maintain the air pollution concentrations at the reduced levels (maintenance).

A SIP is the key to the state's air quality programs. The Act is specific concerning the elements required for an acceptable SIP. If a state does not prepare such a plan, or EPA does not approve a submitted plan, then EPA itself is empowered to take the necessary actions to attain and maintain the air quality standards--that is, it would have to promulgate and implement an air quality plan for that state. EPA is also, by law, required to impose sanctions in cases where there is no approved plan or the plan is not being implemented, the sanctions consisting of loss of federal funds for highways and other projects and/or more restrictive requirements for new industry. Generally, the plan is revised, as needed, based upon changes in the Act and its requirements.

The basic approach to developing a SIP is to examine air quality across the state, delineate areas where air quality needs improvement, determine the degree of improvement necessary, inventory the sources contributing to the problem, develop a control strategy to reduce emissions from contributing sources enough to bring about attainment of the air quality standards, implement the strategy, and take the steps necessary to ensure that the air quality standards are not violated in the future. The heart of the SIP is the control strategy. The control strategy describes the emission reduction measures to be used by the state to attain and maintain the air quality standards.

Federal guidance on states' approaches to the inclusion of control measures in the SIP has varied considerably over the years, ranging from very general in the early years of the Clean Air Act to very specific in more recent years. Many regulatory requirements were adopted in the 1970s when no detailed guidance existed. The legally binding federal mandate for these regulations is general, not specific, consisting of the Act's broad-based directive to states to attain and maintain the air quality standards. However, in recent years, the Act, along with EPA regulations and policy, has become much more specific, thereby removing much of the states' discretion to craft their own air quality control programs.

Generally, a SIP is revised, as needed, based upon changes in air quality or statutory requirements. For the most part the SIP has worked, and the standards have been attained for most pollutants in most areas. However, attainment of NAAQS for one pollutant – ozone – has proven problematic. While ozone is needed at the earth's outer atmospheric layer, excess concentrations at the surface have an adverse effect on human health and welfare. Ozone is formed by a chemical reaction between volatile organic compounds (VOCs), nitrogen oxides (NO_x), and sunlight. When VOC and NO_x emissions are reduced, ozone is reduced.

The Act establishes a process for evaluating the air quality in each region and identifying and classifying each nonattainment area according to the severity of its air pollution problem. Nonattainment areas are classified as marginal, moderate, serious, severe and extreme. Marginal areas are subject to the least stringent requirements and each subsequent classification (or class) is subject to successively more stringent control measures. Areas in a higher classification of nonattainment must meet the mandates of the lower classifications plus the more stringent requirements of their class. In addition to the general SIP-related sanctions, nonattainment areas have their own unique sanctions. If a particular area fails to

attain the federal standard by the legislatively mandated attainment date, EPA is required to reassign it to the next higher classification level (denoting a worse air quality problem), thus subjecting the area to more stringent air pollution control requirements. The Act includes specific provisions requiring these sanctions to be issued by EPA if so warranted.

Once a nonattainment area is defined, each state is then obligated to submit a SIP demonstrating how it will attain the air quality standards in each nonattainment area. Certain specific control measures and other requirements must be adopted and included in the SIP. In cases where the specific federal control measures are inadequate to achieve the emission reductions or attain the air quality standard, the state is obligated to adopt additional control measures as necessary to achieve this end.

The regulation provides for the control of particulate matter from a facility that cannot meet the opacity standard. Due to the nature of the testing operations, ARC had no appropriate method by which it could demonstrate compliance with the board's opacity standards. The board, therefore, granted a variance for the testing facility that enabled ARC to demonstrate compliance through meeting a particulate matter standard as an alternative to the opacity standard.

The variance for ARC was adopted by the board in 2002. No significant changes have occurred at the facility that would require a modification to the variance.

The regulation has been effective in protecting public health and welfare with the least possible cost and intrusiveness to the citizens and ARC. The regulation ensures that the owners comply with air pollution emission limits and control technology requirements in order to control levels of particulate matter emitted into the ambient air during rocket testing and prohibiting emissions that would contribute to nonattainment of the national air quality standards or interference with maintenance of those standards.

The department has determined that the regulation is clearly written and easily understandable by the individuals and the facility affected. It is written so as to permit only one reasonable interpretation, is written to adequately identify the affected entity, and, insofar as possible, is written in non-technical language.

Result

Please state that the agency is recommending that the regulation should stay in effect without change.

The variance for the ARC is necessary as the facility is still in operation. The variance is required to address the need for control of particulate matter in lieu of the opacity limitations.

Small business impact

In order to minimize the economic impact of regulations on small business, please include, pursuant to § 2.2-4007.1 E and F, a discussion of the agency's consideration of: (1) the continued need for the regulation; (2) the nature of complaints or comments received concerning the regulation from the public; (3) the complexity of the regulation; (4) the extent to which the regulation overlaps, duplicates, or conflicts with federal or state law or regulation; and (5) the length of time since the regulation has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the regulation. Also, include a discussion of the agency's determination whether the

regulation should be amended or repealed, consistent with the stated objectives of applicable law, to minimize the economic impact of regulations on small businesses.

This regulation continues to be needed. It provides the source with the most cost-effective means of fulfilling ongoing state and federal requirements that protect air quality.

The regulation's level of complexity is appropriate to ensure that the regulated entity is able to meet its legal mandates as efficiently and cost-effectively as possible.

This regulation does not overlap, duplicate, or conflict with any state law or other state regulation. This regulation was last reviewed in 2002. In that time, it has gotten generally less expensive to characterize, measure, and mitigate the regulated pollutants that contribute to poor air quality. This regulation continues to provide the most efficient and cost-effective means to determine the level and impact of excess emissions and to control those excess emissions.

The Department, through examination of the regulation, has determined that the regulatory requirements currently minimize the economic impact of emission control regulations on small businesses and thereby minimize the impact on existing and potential Virginia employers and their ability to maintain and increase the number of jobs in the Commonwealth.

Family impact

Please provide an analysis of the regulation's impact on the institution of the family and family stability.

It is not anticipated that the regulation will have a direct impact on families. However, there will be positive indirect impacts in that the regulation will ensure that the Commonwealth's air pollution control regulations will function as effectively as possible, thus contributing to reductions in related health and welfare problems.